

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003139**Date Inspected:** 26-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai,China**CWI Name:** C. M. Chen**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Tim McClendon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

**South Fabrication Bay OBG Assemblies**

OBG Assembly Segment 3AE- The C5 Side Panel has been CJP splice welded to the bottom plate D6. ZPMC is in process of FCAW the CJP splice weld that joins a section of the E7 side plate to the D6 bottom plate. ZPMC is utilizing WPS number WPS-B-T-2231-B-U2-F-1, for this FCAW. This WPS is a change from the previous WPS has utilized on the other OBG assembly segments. This change reflects that the WPS being used is a single vee groove that utilizes back gouging from the root side verses the previous WPS that utilized ceramic backing. The Floor beam has been fit-up and fillet welded to the C5 side plate and the D6 bottom plate. ZPMC personnel were observed thermal cutting the WT stiffeners on the side plate at the FL-3 Floor beam for fit-up purposes. The Caltrans QA Inspector identified that there is a stiffener plate that was not fabricated and welded in accordance with approved revised drawings which require a radius and a CJP weld at the stiffener plate termination. An Incident Report is forth coming for this observation.

OBG Assembly Segment 3BE- The C5 and D6 side panels have been CJP welded to the D6 bottom panel. The CJP weld joints that join these side plates to the bottom plate have been UT and accepted by ZPMC. The Floor Beam has been fit-up and welded. The selected ZPMC, ABF and Caltrans Inspection Tag team has applied five (5) sub-assembly side plate green tags and three (3) bottom plate sub-assembly green tags to this segment. ZPMC has erected temporary supports for the fit-up of the deck panels. ZPMC personnel were observed performing MT of

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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excavations of the CJP welds that join the FL2-1 floor beam flanges to the FL-1's flange plate.  
this MT by ZPMC were unknown at the time of the QA Inspector's presence.

OBG Assembly Segment 4AE- There are no activities to report. ZPMC has completed the welding of the FL1 floor beam sub-assemblies to the FL2. The C5 and the E7 side panels have been CJP splice welded to the D6 bottom plate and have been found to contain non-compliant areas as detected by UT by ZPMC personnel.

OBG Assembly Segment 4BE- ZPMC has completed the welding of the 3F fillet welds that join the FL1 floor beam to the FL2-1 floor beam sub-assembly. The welding of the 3G splice welds that join the FL2-2 floor beam assemblies to the mating FL1's have been completed. The C5 Side Panel has been CJP splice welded to the bottom plate D6 and has been found to contain non-compliant areas as detected by UT by ZPMC personnel. ZPMC is continuing with the in process of fitting up sections of the E7 side plate.

### North Fabrication Bay OBG Assemblies

OBG Assembly Segment 5BW- There are no activities to report. ZPMC has positioned the D6 bottom panel and the C5 side plate within the jig fixture. ZPMC has prepared the single "V" CJP groove that will join the C5 side plate to the D6 bottom plate.

OBG Assembly Segment 4BW- ZPMC has completed the welding of the complete joint penetration groove weld that joins the C5 side plate to the D6 bottom plate. UT by ZPMC of the side plate to the bottom plate CJP is currently in progress and was not completed during the Caltrans QA Inspector's presence. A ZPMC FCAW, welder is in process of welding the 2G CJP weld that joins the FL3 Floor Beam to the bottom plate. The E7 side plate has not been fit-up to the opposite side of the assembly.

OBG Assembly Segment 4AW- There are no activities to report. The C5 and the E7 side panels have been CJP splice welded to the D6 bottom plate. ZPMC UT personnel identified and recorded that the side plate to bottom plate CJP welds are non-compliant. ZPMC continues to struggle with the UT acceptance of these CJP splice welds that join the side plates to the bottom plate. The Floor Beam has been fit-up and fillet welded to the side and bottom plates and also at the 3F fillet welds that join the FL2-1 to the FL1's. It was observed that ZPMC has wrapped the fillet welds where the floor beam joins to the side and bottom plates. This discrepancy has been identified as an "Incident" on OBG segment assemblies 3BW and 3BE.

OBG Assembly Segment 3BW- There are no activities to report. The C5 and the E7 side panels have been CJP splice welded to the D6 bottom plate and have been found to contain non-compliant areas as detected by UT by ZPMC personnel. The Floor Beam has been fit-up and welded to the side and bottom plates.

OBG Assembly Segment 3AW- There are no activities to report. The C5 side panel has been CJP splice welded to the D6 bottom plate. UT of the CJP splice weld has not been performed by ZPMC. The Floor Beam is being fit-up and tack welded to the C5 and the D6 bottom plate and is being fit-up on the E7 side plate side. ZPMC has completed the erection of a scaffold for access to the upper portion of the Floor Beam.

### Summary of Conversations:

No relevant conversations spoken on this date.

### Comments

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## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady, Velasco 13816942685, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	McClendon,Timothy	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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